USGS
science for a changing world

125 years of science for America 1879–2004

# Mineral Industry Surveys

**For information, contact:**
John D. Jorgenson, Iron Ore Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4912, Fax: (703) 648-7757
E-mail: jjorgenson@usgs.gov

Amy Tolcin (Data)
Telephone: (703) 648-7978
Fax: (703) 648-7975
E-mail: atolcin@usgs.gov

**Internet:** http://minerals.usgs.gov/minerals

## IRON ORE IN JULY 2004

U.S. mine production of iron ore in July 2004, on a daily average basis, was 7% higher than that of the prior month, according to the U.S. Geological Survey. Average daily production was 160,000 metric tons per day (t/d), more than 10,000 t/d greater than in June 2004.

Shipments on a daily basis were almost 9% lower compared with those of June 2004. Mine stocks at the end of July 2004 were almost 10% lower than the corresponding stock figures at the end of the previous month.

U.S. imports of iron ore in June 2004 exceeded exports by 289,000 metric tons (t).

**Exploration and Development.—**Strong markets for iron ore have led to an increased interest in mine development. Hong Kong-based Asia Iron Holdings signed a memorandum of understanding to form a 50:50 joint venture with Nanjing Iron & Steel Group, a Chinese steel producer. The joint venture planned to mine and ship 5 million metric tons per year (Mt/yr) of magnetite ore from deposits at Koolanooka and Wolla Wolla in Western Australia. The joint venture was considering building four 2.5-Mt/yr pelletizing plants at Long Tan Port on the Yangtze River near Nanjing. Mount Gibson Iron will manage the magnetite mines (Metal Bulletin, 2004a).

Fortescue Metals Group Ltd. announced the appointment of Worley Group Ltd. as the manager for the definitive feasibility study for the Pilbara Iron Ore Project. The A$1.87 billion project has refocused development on the Christmas Creek deposits in the Chichester Range of Western Australia. Preliminary exploratory drilling was expected to be completed by September 2005 with actual iron ore deliveries anticipated by Fortescue at the end of 2006 (MineBox, 2004§[1]).

Kumba Resources Limited (South Africa) signed an agreement with Miferso, a Senegalese Government project development company, in early July. Through the agreement, Kumba obtained the rights to develop a pre-feasibility study for the Faleme iron ore project in Senegal. The agreement also gave Kumba an option to acquire an 80% interest in the project, which was expected to include a 12-Mt/yr mine, a 741-kilometer railway, and a new deep-water port. The Faleme project had a preliminary capital cost estimate of $950 million (Mining Journal, 2004).

**Domestic Production Update.—**On August 20, Cleveland-Cliffs announced that the United Steelworkers of America had ratified new 4-year labor agreements at the four operations managed by Cliffs—Hibbing Taconite and United Taconite in Minnesota, and Empire and Tilden Mines in Michigan. Cliffs holds substantial equity positions in all four mines (Cleveland-Cliffs Inc., 2004a§).

If everything proceeds as planned, the idle concentrating and pelletizing facilities of the former LTV Steel Mining Company at Hoyt Lakes, MN, may no longer be available to process iron ore. Polymet Mining Corp. planned to submit a detailed Environmental Assessment Worksheet to the State of Minnesota in September 2004 and thus trigger the permitting process for the NorthMet Project near Babbitt, MN. The NorthMet Project is a copper, nickel, and precious metal development project. The NorthMet ore would be processed at the Hoyt Lakes facilities, now owned by Cleveland-Cliffs, but under option to PolyMet. Production of nonferrous metals was expected to come on-stream in 2007 (PolyMet Mining Corp., 2004).

**World Production.—**Cliffs announced closing the sale of its partially owned hot briquette iron (HBI) facility in Trinidad and Tobago to International Steel Group Inc. The facility has a capacity of 500,000 metric tons per year (t/yr), but never shipped more than 130,000 t/yr of HBI when in operation (Cleveland-Cliffs Inc., 2004b§).

Portman Limited expected to double production from its iron ore mine at Cockatoo Island in northwestern Western Australia. Marine environmental impact studies, which slowed the construction of a seawall, were successfully completed and work on the seawall was almost finished (Australian Broadcasting Corporation, 2004§).

Companhia Siderúrgica Nacional (CSN), a large Brazilian steelmaker, was expected to expand capacity of its Casa de Pedra Mine in Minas Gerais State to 40 Mt/yr by 2006 at a cost of $310 million. CSN expected the mine to produce 16.1 million metric tons of ore in 2004. Stripping had begun for the

[1]References that include a section mark (§) are found in the Internet References Cited section.

mine expansion, and the equipment ordering process had been started (Metal Bulletin, 2004b).

United Steelworkers of America called a strike at Wabush Mines on July 5 that idled mining and concentrating facilities in Newfoundland, Canada. This was followed by a strike at the Wabush pelletizing and shipping facilities at Pointe Noire, Quebec. On July 19, workers at Iron Ore Co. of Canada (IOC) and the Quebec North Shore and Labrador Railway voted to strike (Skillings Mining Review, 2004). IOC is owned by Rio Tinto plc (59%), Mitsubishi Corp. (26%), and Labrador Iron Ore Royalty Income Fund (15%). At the end of July, only 1 to 5 weeks of pellet inventory with which to fulfill contracts with European customers remained at the port of Sept-Iles (Shawcross, 2004).

**Transportation.—**In South Africa, Kumba Resources offered to invest in upgrading the railway between its Sishen Mine and Saldanha Bay. The upgrading would expand rail haulage capacity from 29 to 41 Mt/yr. Although government officials have ruled out privatization of the railway, they suggest they might be amenable to a public-private partnership, if funding is available (Business Day, 2004§).

A supply agreement signed in early August between Companhia Vale do Rio Doce (Brazil) and Nippon Steel Corp. (Japan) for 70 Mt/yr of iron ore between 2005 and 2015 was expected to affect Capesize vessel usage and freight rates. With order books full for the next 3 years, it was expected that the supply of Capesize shipping vessels would be extremely limited until the end of 2007 (Poole, 2004).

## References Cited


Metal Bulletin, 2004a, Asia Iron signs pellet deal with Nanjing Iron & Steel: Metal Bulletin, no. 8854, August 9, p. 8.

Metal Bulletin, 2004b, CSN plans 30m tonnes of iron ore exports by 2006: Metal Bulletin, no. 8853, August 2, p. 17.

Mining Journal, 2004, Kumba looks into Faleme: Mining Journal, July 9, p. 8.

PolyMet Mining Corp., 2004, PolyMet seeks permits for Minnesota mining project: Vancouver, Canada, PolyMet Mining Corp. press release, July 21, 1 p.

Poole, Anthony, 2004, CVRD-Nippon Steel iron ore contract will give big boost to capesize demand: Metal Bulletin, no. 8854, August 9, p. 19.

Shawcross, Philip, 2004, IOC ore shipments to end soon: Metal Bulletin, no. 8853, August 2, p. 21.

Skillings Mining Review, 2004, Wabush and IOC miners on strike: Skillings Mining Review, v. 93, no. 8, August, p. 12.


## Internet References Cited


Australian Broadcasting Corporation, 2004 (July 30), Iron ore mine to boost production, accessed August 4, 2004, at URL http://www.abc.net.au/news/.

Business Day, 2004 (August 5), Kumba keen to invest in Sishen rail, accessed August 5, 2004, at URL http://www.bday.co.za/bday/content/direct.

Cleveland-Cliffs Inc., 2004a (August 20), Cleveland-Cliffs announces ratification of contracts, accessed September 10, 2004, at URL http://www.cleveland-cliffs.com.

Cleveland-Cliffs Inc., 2004b (July 27), Cliffs announces the sale of idled HBI plant, accessed September 10, 2004, at URL http://www.cleveland-cliffs.com.

MineBox, 2004 (July 19), New results boost Pilbara iron ore project, accessed July 19, 2004, at URL http://www.minebox.com.

TABLE 1
U.S. PRODUCTION AND SHIPMENTS OF IRON ORE[1, 2]
(Exclusive of ore containing 5% or more of manganese)

(Thousand metric tons)

| Period | Production | | Shipments | |
|---|---|---|---|---|
| | Monthly | Year to date | Monthly | Year to date |
| 2003: | | | | |
| July | 3,920 | 28,600 | 4,450 | 25,200 |
| August | 3,950 | 32,500 | 4,330 | 29,600 |
| September | 3,870 | 36,400 | 4,220 | 33,800 |
| October | 4,190 | 40,600 | 4,370 | 38,200 |
| November | 4,140 | 44,700 | 4,540 | 42,700 |
| December | 3,740 | 48,500 | 5,170 | 47,900 |
| 2004: | | | | |
| January | 4,270 | 4,270 | 3,920 | 3,920 |
| February | 4,230 | 8,500 | 1,190 | 5,100 |
| March | 4,130 | 12,600 | 2,710 | 7,810 |
| April | 4,630 | 17,300 | 5,260 | 13,100 |
| May | 4,800 | 22,100 | 5,300 | 18,400 |
| June | 4,470 | 26,500 | 5,880 | 24,200 |
| July | 4,950 | 31,500 | 5,550 | 29,800 |

[1]Data are rounded to no more than three significant digits.
[2]Excludes byproduct ores.

TABLE 2
U.S. PRODUCTION, SHIPMENTS, AND STOCKS OF IRON ORE IN JULY[1, 2]

(Thousand metric tons)

| State | Production | | Shipments[3] | | Stocks[4] | |
|---|---|---|---|---|---|---|
| | 2004 | 2003 | 2004 | 2003 | 2004 | 2003 |
| Michigan | 1,230 | 1,240 | 1,350 | 1,290 | 1,590 | 1,300 |
| Minnesota | 3,720 | 2,680 | 4,200 | 3,160 | 4,080 | 5,250 |
| Total | 4,950 | 3,920 | 5,550 | 4,450 | 5,670 | 6,550 |

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Excludes byproduct ore.
[3]Includes rail and vessel.
[4]Includes mines, plants, and loading docks.

TABLE 3
CANADA: SHIPMENTS OF IRON ORE[1]

(Thousand dry metric tons)

| Period | Newfoundland | Quebec | British Columbia | Total |
|---|---|---|---|---|
| 2003: | | | | |
| June | 2,090 | 1,260 | 5 | 3,360 |
| July | 2,140 | 1,460 | 8 | 3,610 |
| August | 1,530 | 1,100 | 6 | 2,630 |
| September | 1,710 | 1,240 | 7 | 2,950 |
| October | 2,080 | 1,500 | 6 | 3,580 |
| November | 2,260 | 1,190 | 5 | 3,450 |
| December | 1,740 | 1,060 | 6 | 2,800 |
| Year total | 19,800 | 13,300 | 69 | 33,200 |
| 2004: | | | | |
| January | 1,150 | 839 | 5 | 1,990 |
| February | 1,070 | 589 | 7 | 1,660 |
| March | 1,250 | 1,030 | 6 | 2,290 |
| April | 1,740 | 858 | 5 | 2,610 |
| May | 1,690 | 1,740 | 7 | 3,440 |
| June | 1,590 | 981 | 8 | 2,580 |

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Natural Resources Canada.

TABLE 4
CONSUMPTION AND STOCKS OF IRON ORE AND BLAST FURNACE PRODUCTION OF HOT METAL AT U.S. IRON AND STEEL PLANTS[1, 2]

(Thousand metric tons)

| | Consumption of ores and agglomerates | |
|---|---|---|
| | January[3] | |
| Consumption by source | 2004 | 2003 |
| United States ores | 4,670 | 3,780 |
| Canadian ores | 401 | 428 |
| Foreign ores | 439 | 707 |
| Total | 5,510 | 4,920 |
| Consumption by process | | |
| Blast furnaces | 5,010 | 4,370 |
| Steel furnaces | 3 | 39 |
| Agglomerating plants[4] | 492 | 510 |
| Miscellaneous[5] | -- | -- |
| Total | 5,510 | 4,920 |

| | Stocks of ores and agglomerates, January 31[3] | |
|---|---|---|
| Storage point | 2004 | 2003 |
| Furnace yards | NA | 11,100 |
| Receiving/transfer docks | NA | 1,430 |
| Total consumer | 11,700 | 12,600 |

| | Blast furnace production of hot metal | | | |
|---|---|---|---|---|
| | July | | January-July | |
| | 2004 | 2003 | 2004 | 2003 |
| Hot metal and pig iron produced in blast furnaces | 3,340 [e] | 3,080 | 23,740 [e] | 23,300 |
| No. of blast furnaces operating on the last day of the month | NA | 31 | XX | XX |

[e]Estimated. NA Not available. XX Not applicable. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes agglomerates.
[3]Data after January 2004 are not available at the time of publication.
[4]Iron ore and iron ore concentrates consumed in agglomerating plants not located at the mine or plant site
[5]Sold to nonreporting companies or used for purposes not listed.

Sources: American Iron Ore Association (consumption of iron ore 2003) and American Iron and Steel Institute (production of hot metal and pig iron).

TABLE 5
U.S. EXPORTS OF IRON ORE, BY COUNTRY OF DESTINATION AND TYPE[1, 2]

(Thousand metric tons)

| Country of destination and type of product | | 2004 | | | | |
|---|---|---|---|---|---|---|
| | 2003 | First quarter | April | May | June | Second quarter |
| Canada | 6,650 | 958 | 1,020 | 820 | 1,020 | 2,860 |
| China | 74 | 59 | 57 | 26 | (3) | 83 |
| Mexico | 10 | 1 | (3) | (3) | (3) | (3) |
| Other | 37 | 1 | (3) | 80 | 26 | 106 |
| Total | 6,770 | 1,020 | 1,080 | 926 | 1,050 | 3,050 |
| Pellets | 6,700 | 1,020 | 1,020 | 924 | 1,020 | 2,960 |
| Concentrates | 6 | 2 | (3) | (3) | 18 | 19 |
| Direct shipping ores | 43 | (3) | 57 | (3) | 7 | 65 |
| Other[r] | 20 | 1 | (3) | 1 | (3) | 2 |
| Total | 6,770 | 1,020 | 1,080 | 926 | 1,050 | 3,050 |

[r]Revised.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes agglomerates.
[3]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE, BY COUNTRY AND TYPE[1, 2]
(Exclusive of ore containing 20% or more manganese)

| Country of origin and type of product | 2004 June Thousand metric tons | 2004 June Value[3] (thousand dollars) | 2004 Year to date Thousand metric tons | 2004 Year to date Value[3] (thousand dollars) | 2004 Year to date Value[3] (dollars per ton) | 2003 January-June Thousand metric tons |
|---|---|---|---|---|---|---|
| Australia | -- | -- | (4) | 24 | 54.15 | 128 |
| Brazil | 501 | 13,500 | 2,450 | 65,000 | 26.53 | 2,520 |
| Canada | 785 | 25,700 | 2,790 | 92,700 | 33.22 | 2,560 |
| Chile | 48 | 1,250 | 107 | 2,810 | 26.23 | 178 |
| Finland | -- | -- | 4 | 190 | 47.98 | 6 |
| Mexico | -- | -- | 26 | 548 | 20.88 | 24 |
| Norway | -- | -- | -- | -- | -- | 4 |
| Peru | (4) | 9 | 15 | 279 | 18.54 | 29 |
| South Africa | -- | -- | 104 | 4,100 | 39.29 | -- |
| Spain | -- | -- | (4) | 3 | 39.91 | -- |
| Venezuela | -- | -- | 21 | 822 | 40.00 | 21 |
| Total | 1,340 | 40,400 | 5,520 | 166,000 | 30.16 | 5,470 |
| Concentrates | 75 | 1,700 | 407 | 9,090 | 22.35 | 471 |
| Coarse ores | -- | -- | (4) | 11 | 226.70 | 24 |
| Fine ores | 442 | 10,300 | 1,450 | 33,100 | 22.79 | 1,060 |
| Pellets | 818 | 28,400 | 3,640 | 123,000 | 33.90 | 3,700 |
| Briquettes | -- | -- | 21 | 822 | 40.00 | -- |
| Other agglomerates | -- | -- | (4) | 3 | 39.91 | 217 |
| Roasted pyrites | -- | -- | 4 | 193 | 48.88 | 4 |
| Total | 1,340 | 40,400 | 5,520 | 166,000 | 30.16 | 5,470 |

-- Zero.
[1]Data, with the exception of the dollars per ton column, are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes agglomerates.
[3]Customs value. Excludes international freight and insurance charges.
[4]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE IN JUNE 2004[1, 2]
(Exclusive of ore containing 20% or more manganese)

(Thousand metric tons)

| Country of origin | Type of product: Concentrates | Coarse ores | Fine ores | Pellets | Briquettes and other agglomerates | Roasted pyrites | Total |
|---|---|---|---|---|---|---|---|
| Brazil | -- | -- | 291 | 210 | -- | -- | 501 |
| Canada | 27 | -- | 151 | 608 | -- | -- | 785 |
| Chile | 48 | -- | -- | -- | -- | -- | 48 |
| Peru | (3) | -- | -- | -- | -- | -- | (3) |
| Total | 75 | -- | 442 | 818 | -- | -- | 1,340 |

-- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes agglomerates.
[3]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF PELLETS, BY COUNTRY[1]

| Country of origin | 2004 June Thousand metric tons | 2004 June Value[2] (thousand dollars) | 2004 Year to date Thousand metric tons | 2004 Year to date Value[2] (thousand dollars) | 2004 Year to date Value[2] (dollars per ton) | 2003 January-June Thousand metric tons |
|---|---|---|---|---|---|---|
| Brazil | 210 | 7,640 | 1,330 | 42,700 | 32.22 | 1,540 |
| Canada | 608 | 20,800 | 2,310 | 80,500 | 34.86 | 2,160 |
| Total | 818 | 28,400 | 3,640 | 123,000 | 33.90 | 3,700 |

[1]Data, with the exception of the dollars per ton column, are rounded to no more than three significant digits; may not add to totals shown.
[2]Customs value. Excludes international freight and insurance charges.

Source: U.S. Census Bureau.

TABLE 9
U.S. IMPORTS FOR CONSUMPTION OF IRON ORE,
BY CUSTOMS DISTRICT[1, 2]
(Exclusive of ore containing 20% or more manganese)

(Thousand metric tons)

| Customs district (code no.) | June 2004 | January-June 2004 | January-June 2003 |
|---|---|---|---|
| Baltimore, MD (13) | 281 | 1,970 | 1,670 |
| Buffalo, NY (09) | 1 | 3 | 3 |
| Charleston, SC (16) | -- | -- | 106 |
| Chicago, IL (39) | 137 | 303 | 372 |
| Cleveland, OH (41) | 480 | 1,130 | 1,200 |
| Detroit, MI (38) | 27 | 99 | 49 |
| Great Falls, MT (33) | (3) | (3) | -- |
| Houston - Galveston, TX (53) | -- | 28 | 37 |
| Los Angeles, CA (27) | -- | -- | (3) |
| Mobile, AL (19) | -- | 21 | 63 |
| New Orleans, LA (20) | 408 | 1,960 | 1,950 |
| Nogales, AZ (26) | -- | (3) | -- |
| Ogdensburg, NY (07) | -- | -- | 1 |
| Philadelphia, PA (11) | -- | 4 | 24 |
| Total | 1,340 | 5,520 | 5,470 |

-- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes agglomerates.
[3]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 10
U.S. IMPORTS FOR CONSUMPTION OF PELLETS,
BY CUSTOMS DISTRICT[1]

(Thousand metric tons)

| Customs district (code no.) | June 2004 | January-June 2004 | January-June 2003 |
|---|---|---|---|
| Baltimore, MD (13) | 72 | 741 | 532 |
| Charleston, SC (16) | -- | -- | 105 |
| Chicago, IL (39) | 29 | 87 | -- |
| Cleveland, OH (41) | 480 | 1,090 | 1,200 |
| Detroit, MI (38) | 27 | 99 | 49 |
| Houston-Galveston, TX (53) | -- | 28 | 37 |
| Mobile, AL (19) | -- | -- | 59 |
| New Orleans, LA (20) | 210 | 1,590 | 1,710 |
| Total | 818 | 3,640 | 3,700 |

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.